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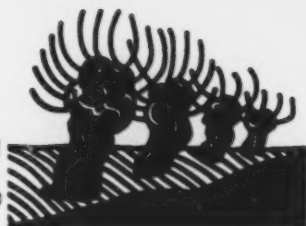
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ABSTRACT

This report presents some results from various empirical research projects within nursing education carried out during the late 1960's and the early 1970's at Malmo School of Education, University of Lund (Sweden). It is noted that a wide range of methods has been used in dealing with the following issues: curriculum analysis; construction of attitude scales; exploring attitude structures; describing attitude changes during nursing education; work analysis by means of the critical incident method; and presentation of problem-situations and behavioral suggestions to be used as a basis for problem-based learning. The report is mainly confined to the following three themes: (1) work analyses by means of the critical incident method; (2) construction of attitude scales and mapping the structure of the attitude concept "patient-centeredness"; and (3) suggestions for application of the research results. In addition, some recent American nursing research, focusing on the same issues highlighted in the current research are presented and commented upon. Appendices include a list of citations to literature from which excerpts have been taken and reformulated into attitude items, instruction for semantic scaling, and methods of coding answers to questions. Contains 35 references. (GLR)

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Nursing research at Malmö
School of Education during
the 1960's and 1970's –
results and suggestions for
application

LARS SJÖDAHL

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NURSING RESEARCH AT MALMÖ SCHOOL OF EDUCATION DURING THE 1960's AND 1970's - RESULTS AND SUGGESTIONS FOR APPLICATION

Lars Sjö Dahl

Sjö Dahl, L. Nursing research at Malmö School of Education during the 1960's and 1970's - results and suggestions for application. Educational and Psychological Interactions (Malmö, Sweden: School of Education), No. 111, 1992.

In this report the author presents some results from an empirical research project within nursing education carried out during the late 60's and the early 70's at Malmö School of Education, University of Lund. A wide range of methods has been used in dealing with the following issues:

- Curriculum analysis.
- Construction of attitude scales.
- Exploring attitude structures.
- Describing attitude changes during nursing education.
- Work analysis by means of the critical incident method.
- Presentation of problem-situations and behavioural suggestions to be used as a basis for problem based learning.

The report is mainly confined to the following three themes:

1. Work analyses by means of the critical incident method.
 2. Construction of attitude scales and mapping the structure of the attitude concept "patient-centeredness".
 3. Suggestions for application of the research results.
- Some recent, American nursing research, dealing with the same problems that were in focus in the author's own nursing research started 20 years ago are presented and commented upon.

Keywords: Attitude research, critical incident method, nursing research, problem based learning, problem solving.

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1. EARLY NURSING RESEARCH AT MALMÖ SCHOOL OF EDUCATION

Behavioural researchers sometimes start their reports by declaring their adherence to a specific theoretical or methodological tradition. These are labelled as either quantitative or qualitative, based on a positivistic or hermeneutic approach, presented within a behaviouristic or psycho-dynamical paradigm or sometimes described as phenomenologically oriented, (e.g. "A phenomenological - hermeneutic approach was consistent," Åkerlund, 1990 p 5). The research I carried out during the 1960's and 1970's and which is presented partly in this report may, however, not be possible to label in this simple either-or-manner.

The emphasis in my own nursing research has been centered around the following issues and a wide range of methods has been used depending upon the specific problem:

- Curriculum - analysis (Sjödahl, 1971).
- Exploring (Mapping) the attitude structure expressed in the debate about the nursing profession (Sjödahl, 1972).
- Construction of attitude scales to be used in estimating nursing attitudes (patient centeredness) (Sjödahl, 1972).
- Evaluating attitude changes during nursing education (Sjödahl, 1975d).
- Work-analyses by means of the critical incident method with the aim of studying how the patient's basic psychological needs are met (Sjödahl, 1974).
- Presentation of a sample of problem-situation (case-studies) and a list of behavioural suggestions to be used as a basis for problem-based learning (Sjödahl, 1974).

Many of these research areas have later been accepted by researching nurses as important issues, as can be seen from the following citations:

- "The theoretical shortcomings in nursing are partly due to poor basic research on the mechanisms that govern the behaviour leading to basic need satisfaction in somatically and psychologically healthy individuals. Research in this field, if any, has been concerned primarily with the satisfaction of physiological needs". (Heidenborg, 1981, p 12).

This description of the research situation is, however, not true. When Heidenborg published her doctoral thesis (1981), there already existed much empirical research and practical experimentation concerning satisfaction of basic psychological needs in psychologically healthy individuals - mainly within work psychology - a subject area adjacent to Heidenborg's own speciality. Beside this my own nursing research (1969-1974) was concerned with how the patient's basic psychological needs are met in nursing situations. My research report "Att vårda människor" (Care of people), where the main results of 5 years of research (curriculum analyses, attitude research and critical incident interviews with 172 registered nurses) are reported, has inspired Heidenborg to start her own motivational research. This can be seen from letter sent to me in 1976. (Personal communication).

- "Flanagan started to use the method (critical incident method) within USA:s air forces, where officers were interviewed about different critical situations. In Sweden the method is well-known and used (Andersson & Nilsson, 1970; Ehnfors, 1986; Gestrelus, 1970; Sjö Dahl, 1974). Within nursing research the method has been used to a relatively great extent during the past 25 years, mainly in USA. In Great Britain we find studies from the seventies, where the method has been used (Cormach 1983, 1984). Cormach (1983) has *inter alia* used the method to describe the nurse's role in psychiatric care" (Rooke, 1990, p 59).

Within nursing research the critical incident method has been used in Sweden extensively in my own research during 1969-1974. Not only have the results from hour-long interviews with 172 registered nurses been reported (Sjödahl, 1974a) - also methodological questions have been discussed in a series of articles (Sjödahl, 1971b, 1973, 1974b, 1975a, 1975b, 1975c).

- "Britt Johansson is a professional nurse and was awarded a Ph D. 1979 for her thesis "Needs for knowledge in caring (nursing) and knowledge requirements in nursing education". With Britt Johansson's thesis Swedish nursing education was for the first time subjected to scientific study". (Derbring & Stölten, 1991, p 59).

As early as 1975 I presented a scientific study dealing with changes in attitudes and personality traits during nursing education. This research included 290 student nurses distributed over term 1, term 2 and term 5. Significant differences in attitudes and personality factors between the three term-groups were demonstrated using discriminant analysis and variance-analyses (Sjödahl, 1975d). Several scientific reports from my nursing research project during 1969-1974 deal with aspects on knowledge requirements in nursing education.

2. MAIN PURPOSE OF THE REPORT

The main aim of this report is to present some early research in nursing education - research that was conducted during the years 1969-1974, and at the same time connect it with some later, relevant research dealing with the same problems that were in focus in my own early research. This purpose confines the selection of references and I have to apologize for not being able to give credit to all good nursing research that has been carried out in Sweden since I started research into nursing education more than 20 years ago. A total of 172 professional nurses at medical and surgical hospital departments were interviewed by means of the critical incident method. These interviews resulted in a large number of situations and incidents illustrating the importance that the nurse takes the patient's psychological needs into consideration when carrying out her professional duties. Furthermore, scales were constructed to study the attitude structure corresponding to the concept patient-centeredness and which could be expected to exert a mediating role in educational efforts to develop a more holistic approach to nursing and medical care. This report is confined to the following three themes:

1. Work analyses by means of the critical incident technique.
2. Construction of attitude scales and mapping the attitude structure called patient-centeredness.
3. Application of research results from step 1 and 2 above in order to develop problem-based learning. The problems used as the basis for the student's learning and personal approach to acquiring knowledge, skills and a more holistic understanding are thus drawn from real work experiences which have to do with a defined goal aspect. As early as 1954 Flanagan emphasized the value of relating critical incident data to the study of attitudes: "The critical incident technique has been applied in a few instances to gather factual data regarding specific actions involving decisions and choices. These studies suggest that critical incidents of

this type may be a very valuable supplementary tool for the study of attitudes." (Flanagan, 1954, p 353).

WORK ANALYSES BY MEANS OF THE CRITICAL INCIDENT METHOD.

In Rooke (1990, p 122) we find the following description of Flanagan's critical incident method:

"Flanagan says that it is an inductive method and that the first step is to construct tentative categories".

I cannot see that this statement is correct. Flanagan says that the classification of reported incidents is usually inductive (Flanagan, 1954, p 335) - he does not characterize the method as such as inductive. The difficulty with labelling the critical incident method as inductive, as Rooke does (Rooke, p 122) is that the method involves both inductive and deductive mental operations. The informant may work deductively, i.e. move from an abstract goal-aspect like success - failure, good - poor performance, creative - routine behaviour, etc. to particular, real incidents exemplifying the general abstract aspect given in the instruction. The researcher on the other hand may work inductively when he tries to group or categorize the manifold concrete episodes for later analyses and synthesis.

Further, Flanagan never regards construction of a tentative classification system as the first step in a critical incident study - cf Rooke (1990, p 122). On the contrary, he is keen to emphasize that the first step in applying the critical incident method is to secure some consensus about the general aims for the job being studied:

- "No planning and no evaluation of specific behaviours are possible without a general statement of objectives." (Flanagan, 1954 p 336.)
- "... discussions have failed to emphasize the dominant role of the general aim in formulating a description of successful behaviour or adjustment in a particular

situation." (Flanagan, 1954 p. 336.)

- "It is clearly impossible to report that a person has been either effective or ineffective in a particular activity by performing a specific act unless we know what he is expected to accomplish." (Flanagan, 1954 p 336.)
- "A basic condition necessary for any work on the formulation of a functional description of an activity is a fundamental orientation in terms of the general aims of the activity." (Flanagan 1954, p 336.)

It should be clear from the citations above that Flanagan, the originator of the critical incident method does not regard construction of tentative categories to be the first step in his method. Any research using categorization of the raw data from interviews or questionnaires thus does not qualify to be called critical incident research. The importance of some agreement about general aims of the job being studied as a first step in the critical incident method is also evident from Flanagan's emphasis on the error-seeking function of his method. Errors are serious deviations from accepted aims and they are of course impossible to describe if no consensus about aims exists. Flanagan realizes that the researcher may have to modify the defining principles he has laid down depending upon the specific research situation:

"It should be emphasized that the critical incident technique does not consist of a single rigid set of rules . . . Rather it should be thought of as a flexible set of principles which must be modified and adapted to meet the specific situation at hand.

The essence of the technique is that . . . all observations are evaluated by the observer in terms of an agreed upon statement of the purpose of the activity." (Flanagan, 1954 p 335.)

The defining principles are, thus, always there in the critical incident method and the researcher ought to give reasons for his variations or deviations. When Flanagan's principles are absent or violated in a work analyses, I cannot see any reason for using

the term critical incident method. It is in fact misleading. For a situation to be critical - something else (e.g. a goal, work demand, norm, value, purpose or intention) is at risk. If work descriptions are carried out with hardly any reference to agreed upon goals, norms, values or intentions neither in the interview-instruction - nor in the analyses or summaries of empirical data there is no reason for using the concept "critical". In Sjö Dahl (1975) different ways of varying and elaborating the critical incident technique are discussed and exemplified. A short analysis of certain sampling questions when collecting information by means of the critical incident method is to be found in Sjö Dahl (1971).

The critical incident technique has been used in my own research in accordance with the following characteristics in Flanagan's (the originator) definition of his method.

- "The critical incident technique outlines procedures for collecting observed incidents having special significance and meeting systematically defined criteria." (Flanagan, 1954, p 327.)

To satisfy this requirement a specific goal aspect of nursing was systematically defined in the interview instruction and the informants asked to report incidents meeting these goal criteria. The criteria used are presented in appendix 2.

- "By an incident is meant any observable human activity that is sufficiently complete in itself to permit inferences and predictions to be made about the person performing the act." (Flanagan, 1954, p 327.)

The incidents collected in my research (Sjö Dahl, 1974a) are not short episodes confined to a few lines. On the contrary they are usually fairly long and full of contextual details making inferences about the person's acting in the situation possible. This result has been achieved by prompting questions like the following: "What you have told me now is very interesting and highlights many important points

of view. Perhaps you have still more to tell me about this incident?"

- "To be critical, an incident must occur in a situation where the purpose or intent of an act seems fairly clear to the observer . . ." (Flanagan, 1954, p 327.)

To meet this criterion every reported incident has simply been followed up with the following open-ended question: "Why did you choose to act as you did in this situation?"

Together with the reported incidents the nurses' answers to this question gave a vast amount of qualitative data making inferences possible about the nurses' covert behaviour like intentions, norms, values, attitudes and deliberations when trying to solve the problem described in the reported situation.

- "To be critical, an incident must occur in a situation --- where its consequences are sufficiently definite to leave little doubt concerning its effects." (Flanagan, 1954 p 237.)

This last distinctive hall-mark of the critical incident method has been recognized in my research by supplementing the reported incidents with the following two open-ended questions:

"What were the consequences of the measures you took?"

"Do you regard your own acting (decisions, measures taken) in this situation as satisfactory or not satisfactory with regard to the patient's psychological needs?"

Type of interview

The interviews carried out with 172 nurses (Sjödahl 1974a) were comprehensive and contain strictly structured as well as flexible, qualitative parts with open-ended

questions. Taylor and Bogdan (1984, p 77) make the following distinction between structured and unstructured interviews:

"In fact in most structured interviewing each person is asked identically worded questions to assure comparable findings. The interviewer serves as a cheerful data collector = the role involves getting people to relax enough to answer the predefined series of questions completely.

In strong contrast to structured interviewing, qualitative interviewing is flexible and dynamic. Qualitative interviewing has been referred to as nondirective, unstructured nonstandardized, and open-ended interviewing. We use the phrase "in-depth interviewing" to refer to this qualitative research method".

It is a difficult task to give the kind of interview that has been used in my own research a label. The best I can do to satisfy any need my reader may have for a rough categorization is to give a short presentation of both the structured as well as the qualitative features of the interview.

1. The interview was structured in the sense that a goal aspect for caring (to be concretized by the informants) was defined. (See appendix 2). This goal aspect was communicated several times to the nurses who were going to take part in the research. First, it was enclosed with a written presentation and invitation to the head nurse of the ward to introduce the research project. Second, it was addressed, personally, by post to all the nurses who were willing to be interviewed. Third, it was presented, read through and eventually discussed by the interviewer and the informant (nurse) in a face-to-face relation in the hospital ward where the nurse worked. The method and questions were tried out with small groups of professional nurses and necessary revisions were made before the plans were put into more general use. During these try-outs it was for example found that questionnaires did not work - interviews with open-ended questions were necessary to secure the kind of data we wanted. Further, it was not possible

to tie down the selection of incidents by asking for the most recent observations. This restriction turned out to be too confining. Our collection of reported incidents should therefore be regarded mainly as a sample from a qualitative, subjective behavioural domain and not as representing a quantitatively defined behavioural area. No names or ID numbers were recorded.

2. To guarantee, as far as possible, an equal number of positive and negative incidents the actual invitation to start describing an incident was highly structured and standardized. (See Appendix 3).
3. The reported incidents were tape-recorded, directly. In some cases this recording was done indirectly by the interviewer from memory and notes. This critical-incident material contains a huge amount of qualitative data illustrating a wide range of problems all important and meaningful in relation to the defined goal aspect, i.e. the patient's psychological needs. To exemplify, the following types of problems can be mentioned:
 - Communication and information problems.
 - Problems of cooperation in order to achieve a goal.
 - Organizational problems.
 - Supervisory problems.
 - Ethical problems.
 - Existential problems like life-quality, religious beliefs, reconciliation etc.
 - Problems with stress and lack of time.
 - Problems with adjustment to different role expectations.
 - Problems with adjusting to different (rigid) attitudes and personality-traits.
 - Problems with decision-making.
 - Problems with technical, manual skills.
 - Etc.

The incidents presented in Sjödahl (1974a) comprise long descriptions with manifold details that gives a broader context. One and the same incident often illustrates several categories of problems and it is therefore not possible to sort the incidents like buttons into mutually exclusive categories (buttons with two holes, buttons with three holes, buttons with four holes, etc.). This situation does not violate the general rule that the abstract category definitions used by the researcher should be as mutually exclusive as possible. Instead of talking about problem-categories that are intended to be used as the only valid and acceptable boxes when sorting qualitative data I would prefer to talk about different categories of aspects that can be more or less dominant and challenging in the described incident. Flanagan has pointed out this possibility in the following sentences: "There are countless ways in which a given set of incidents can be classified. In selecting the general nature of the classification, the principal consideration should usually be that of the use to be made of the data". (Flanagan, 1954, p 344). This is the approach applied in Sjödahl (1976a) and it still remains to be tried out on the rich sample of incidents, of which a part is presented in Sjödahl (1974a). In this publication lists of actual behaviour (covert - as well as overt) are derived from the reported incidents and the nurses' answers to the following open-ended questions:

- What measures (actions) did you take in this situation, when you became aware of the problem?
- Did you take any measures (actions) later on with regard to this situation?
- Could you think about other good alternatives to act in this situation?

The lists contain about 300 different descriptions of measures (actions) taken - called job-demands. Together with the 150 incidents presented in the report (Sjödahl, 1974a) these lists are meant as a basis for discussions aiming at improving attitudes, nursing practice, and nurses' working conditions (See Sjödahl, 1974a, p 11).

4. A vast amount of additional qualitative information was secured by means of open-ended questions or discussions around the following themes.
 - How did the nurse become aware of the problematic situation (incident)? (Sjödahl, 1974a, pp 32-47).
 - What conditions and deliberations elicited caring activities?
 - Although the nurses often revealed their thoughts and feelings about the patient and the situation they described in the reported incident open-ended follow up-questions were given to record how they evaluated the results of the measures taken.

Because the nurse does not act isolated from the other personnel but is a team-member working within a social field my critical incident interviews also included the following two questions about which other persons or personnel categories were involved in the reported incidents (Sjödahl, 1974a, pp 48-54).

- Which persons took part directly in the incident you have reported?
- Which other persons were in some way more indirectly referred to in the incident?

What is meant by the concept nursing?

From Rooke's (1990) thesis it is obvious that the concept nursing is not easily defined. Rooke presents the concept mainly within theoretical frameworks (nursing theories) but even concrete, practical examples of nursing activities are given. In this report I would like to present a study by Kahn and Steeves (1988) with the title "Caring and Practice: Construction of the Nurse's World". I have three reasons for attending to this research report.

- The article deals with the meaning of caring (nursing) from the perspective of the nurse in practice.
- The article is not mentioned in Rooke (1990).
- The research approach and the problems stated by Kahn and Steeves can easily be recognized in my own early research.

Kahn and Steeves (1988) used a standardized interview schedule with specific prompts as a guide to cover the following three *a priori* content areas:

1. Informants are asked to produce lists of words/phrases used synonymously with caring along with a contextual description.
2. Informants are asked to give clinical examples or prototypical examples from his/her clinical praxis that illustrated caring.
3. Informants are asked to specify the semantic principles underlying the meaning of caring.

The interview is described as an open-ended interview and the authors emphasise that the interview schedule served only as a guide. Nineteen females and six males participated in the study with a mean nursing practice of 7.6 years covering intensive care, medical, surgical, pediatric, hospice, obstetrics, psychiatric, home health, public health and long-term care. The taped interviews were transcribed and analyzed in order to find answers to the following questions.

- What is the meaning of caring?
- What conditions elicit caring?
- What conditions limit caring?

These three questions deal with the same problem as those I started to study in 1969 by interviewing 172 professional nurses and exploring the attitude structure among nursing students. In presenting the result from Kahn's and Steeves' research, I will therefore add results from my own research between 1969-1975.

From the informants' answers and description based on their practical experience with patients, the researchers, Kahn and Steeves (1988) abstracted 29 categories outlining the nature and structure of a nurse-patient-caring relationship. These categories are grouped under the following four main categories.

1. Ideological Context
2. Liking as the basis for caring.
3. Praxis
4. Attributions for caring.

The subcategories under each of these 4 head categories are presented below together with relevant results from my own early research.

1. Ideological Context.
 - 1.1 Caring underlies professional identity.
 - 1.2 Caring requires seeing persons as unique individuals.
 - 1.3 Caring requires compassion and empathy.
 - 1.4 Caring-relationships are therapeutic.
 - 1.5 Caring is limited by the need to maintain objectivity.

The ideological context within which my own research was conducted is given in the written instruction to the interviewed nurses (Sjödahl, 1974a, pp 18-19, Appendix 2). In this instruction the nurses are asked to specify what is meant in practice by treating the patient as a person, i.e. to take the patient's basic psychological needs into consideration. All the 5 ideological categories in Kahn and Steeves' category system are abundantly represented in the critical incident material from my research (Sjödahl, 1974a). The first ideological subcategory in Kahn and Steeves' category system "underlies professional identity" is illustrated by the following interview-excerptions:

" . . . it (caring) is part and parcel of everything I do", "I don't think you cannot care and be a nurse", "caring is a lot of what I base my nursing practice on".

Against this background - caring as essential to the identity of the nurse - all the

incidents reported in my research ought to be highly relevant for understanding and developing the professional identity among nurses because the interview instruction (Sjödahl, 1974a, pp 18-19) makes explicit what is meant by treating the patient as a unique person, i.e. taking the patient's basic psychological needs into consideration in a patient-nurse-caring relationship. Seeing the patients as unique individuals requiring compassion and empathy in a therapeutic relationship is perceived as an essential requirement for developing caring practice by the nurses in Kahn and Steeves' (1988) study as well as in the incidents and attitude descriptions presented in Sjödahl (1974a).

The last ideological subcategory in Kahn and Steeves' article "the need to maintain objectivity" is of special interest in this context, because this category is so heavily represented in our first attitude factor, covering a bipolar attitude dimension stretching from practical, factual concern to emotional expressive engagement. In Kahn and Steeves' interview material several nurses noted that the profession required distance between the nurse and the patient for the sake of "objectivity". One nurse declared: "I felt my objectivity was . . . (gone) because I was too emotionally close to her (the patient) ... I felt I couldn't do an adequate job for her". All the nurses who stressed this need for "objectivity" were also aware that care in a therapeutic relationship required empathy and acceptance of patients as unique individuals. Kahn and Steeves conclude that the conflict between empathy and concern on the one hand and professional distance on the other not only exists within the socialization process but indeed within the personality of individual nurses.

The second main category in Kahn and Steeves' work-analyses is called "Liking as the basis of caring". The subcategories under this main category are as follows:

2. Liking as the basis of caring.
 - 2.1 Caring is characterized by "fitting in with" someone.
 - 2.2 Caring is evaluated in terms of liking someone.
 - 2.3 Caring includes friendship

- 2.4 Caring is reciprocated through personal recognition.
- 2.5 The absence of caring is characterized by mutual inability to "get along".
- 2.6 The absence of caring can be characterized by animosity.

The subcategories above may be seen as definitions of different grades of emotional involvement between nurse and patient along a dimension stretching from animosity to reciprocal affection and personal recognition. The positive pole of this dimension is well represented in my own critical incident research (Sjödahl, 1974a). Almost every incident illustrates an ambition on the part of the nurse to recognize the patient as a person while the negative pole - animosity - is hardly present in my material.

The third main category - praxis, or the actions of the nurses in face-to-face encounters with patients is regarded by Kahn and Steeves as the central focus of nursing and of caring. The following subcategories are presented under the heading "praxis".

3. Praxis.

- 3.1 Caring includes physical nursing actions.
- 3.2 Caring includes non-physical nursing actions.
- 3.3 Caring includes insisting on patient independence.
- 3.4 Caring includes actions that improve conditions for patients.
- 3.5 Caring includes nursing actions related to communication.
- 3.6 Caring includes being an advocate and liaison.
- 3.7 The absence of caring is indicated by performing in a routine way.

In my critical incident research praxis was studied by means of the following questions answered by 172 nurses after each reported incident:

- What measures (actions) did you take in the situation you have just reported - when you became aware of the problem?
- Did you intervene in some way to solve this situation later on?

In Sjö Dahl (1974a) a qualitative account of the answers to these questions is given together with a sample of reported incidents. A quantitative description of answers to the two questions above, is to be found in Sjö Dahl (1976b). All answers are there categorized into 26 defined categories by three independent judges working from a written instruction (Appendix 4). The inter-judge reliability was estimated using Kendall's concordance correlation (Siegel, 1956) and amounts to $W = 0.90$. The total number of action checks amounts to 840 (= sum of 3 coders' checks). Below are given some examples of the most and the least frequently (sum of 3 coders' checks) reported measures:

Most frequently reported actions (measures)

1. The nurse listens to the patient, to his opinions and complaints or wishes - consoles and encourages the patient (Frequency = 202).
2. The nurse cooperates - mutual exchange of advice with specialists, colleagues, doctors, relatives, student nurses and nursing staff (Frequency = 156).
3. The nurse informs the patient about treatment and operations (Frequency = 81).
4. The nurse tries to excuse or explain situations and conditions that cause irritation and dissatisfaction for the patient (Frequency = 50).
5. The nurse takes responsibility for creating an environment that fits the patient's needs (Frequency = 49).
6. The nurse returns to the patient to see to or control that the reported incident was satisfactorily solved (Frequency = 44).

Least frequently reported actions (measures)

1. The nurse encourages the patient to exercise during the mobilization- and rehabilitation stage (Frequency = 2).
2. The nurse explains to a patient suffering from a fatal disease why she cannot practice euthanasia (Frequency = 3).
3. The nurse cooperates with the nursing staff in order to develop a consequent plan or strategy for the caring of individual patients (Frequency = 3).
4. The nurse makes use of her observations by revising and changing individual nursing plans (Frequency 4).
5. The nurse calls for other personnel who can stay longer with the patients (Frequency = 4).
6. The nurse helps the patient to develop his/her interests (Frequency = 4).

The fourth main category "Attributions for Caring" in Kahn and Steeves' study (1988) summarizes conditions eliciting caring as well as conditions obstructing a caring-relation. The informants' answers are sorted into the following subcategories:

4. Attributions for Caring.
 - 4.1 Care is elicited when patients are in dire circumstances.
 - 4.2 Care is elicited when patients have multiple, psychosocial problems.
 - 4.3 Care is elicited when patients rely on the nurse.
 - 4.4 Care is elicited when patients are alert and personable.
 - 4.5 Care is elicited when the nurse can make a temporal investment.
 - 4.6 Care is limited by temporal circumstances.

- 4.7 Care is limited by factors that are the nurse's responsibility.
- 4.8 Care is limited by patients' actions that cause problems.
- 4.9 Care is limited by patients' unwillingness to communicate.
- 4.10 Care is limited by patients' poor self-images.

Most of the informants said that caring was elicited by patients who were seriously ill or had multiple problems. The qualitative examples given by Kahn and Steeves (1988, pp 209-210) to illustrate this point are extremely interesting as they express an attitude of whole-hearted involvement without any intention to keep a factual, intellectual or aesthetical distance to the patient. One nurse describes her caring relationship in the following words: "... had Crohn's disease so was having chronic diarrhoea all the time. She was addicted to codeine. She was a dried-up alcoholic, just a real case".

Another informant declared: "There is a lot of support to love patients in critical care because you are gonna lose them". It appears that the patients' degree of dependence is important in cases like these: "They were relying heavily on me for information and support".

Many of the subcategories concern both negative and positive characteristics of the patients. Some informants found it easier to care about patients who were "alert", "outgoing", "personable" or "interested in themselves", than patients who were "cool", "withdrawn" and "not ready to talk". Patients who caused problems were described as "demanding", "dirty", "on the light all the time" (constantly calling) and those patients who did not invite caring behaviour had a poor, depressive self-image - they "really disliked themselves" or "did not seem to care about themselves".

Responsibility for the absence of caring was sometimes assumed by the nurse: "you (the nurse) can't develop a good rapport with everyone" - "some days I haven't gotten as much sleep before I went to work as other days" or "I can only spread myself so thin and I've got two or three other people (who need me)." About half of the

informants (13 of 24) reported that time was an important factor in caring - as one nurse put it: "It takes time for a caring relation to build".

In my own research (Sjödahl, 1974a, 1991) those aspects of the nursing profession covered by Kahn and Steeves' fourth main category (attribution for caring) were studied by means of the following two interview-questions given to the nurses (N = 172) after each reported critical incident:

- Why did you choose to act as you did in this situation?
- What were the consequences of the measures you took?

The nurses' reasoning when deciding on which measures to choose as well as their registration or evaluation of the measures taken were coded by two independent coders according to written instructions. An excerpt from these instructions is given in appendix 5. The two coders were familiar with the broader context - a total of approx. 2 000 typed pages. The category system used to record the answers to the two questions above was one and the same, so only the coder-instruction for the first question is exemplified in appendix 5. The category system given in the instructions was constructed by the author after carefully reading through all the reported incidents and the nurses' answers to the two questions given above. This qualitative classification of the nurses' answers was carried out with the greatest possible consideration for those criteria (Sjödahl, 1988) that must be fulfilled if the category system is also going to be used for quantitative descriptions of the interview material.

Some of the main criteria used when making such a category system are:

- Items comprising the category system must be exhaustive in that there always is a category in which every behaviour of the kind being studied may be classified.

- Category descriptions should be representative of the behaviour dimension intended to be studied. The universe of the behaviour observed is therefore carefully defined in the coder instruction.
- Categories included in the system should be as mutually exclusive as possible.
- Rules for categorization of borderline or unusual behaviour must be specified.
- Consideration is taken to the problem that valid coder interferences are context-dependent.

Only the part of this content analysis that directly corresponds to Kahn and Steeves' fourth main category will be presented in this article. In table 1 frequencies are presented showing how often different categories (or aspects) are represented in the 172 nurses' answers to the question: Why did you choose to act as you did in this situation?

Table 1. The frequency of categories represented in the answers to the question: Why did you choose to act as you did in this situation? Frequencies (sum of) based on two independent categorizers' checking

Category	Frequency
1. The patient's psychological (mental, covert) state	182
2. The patient's somatic state	46
3. The patient's need of attention and his/her expression of satisfaction or dissatisfaction	47
4. If the patient is withdrawn, closed or alert, outgoing	5
5. The patient's possibilities to get in contact with relatives and friends	9
6. The patient's capacity (or difficulties) in apprehending and understanding the nurse's measures	0
7. The patient's behaviour with regard to the discipline and rules in the hospital	20
8. The risk that the patient develops a too demanding and dominating attitude or behaviour	2
9. The patient's preparedness to accept certain conditions or persons, like the illness, doctors, nurses, co-patients, medical examinations, being moved to another department etc.	7

The structural agreement between the two coders' frequency-series has been estimated by Spearman's rank correlation and amounts to $\rho = 0.81$. As the frequencies given in table 1 are based on the sum of two coders' checking this correlation is corrected by means of the Spearman-Brown formula. (Ferguson, 1959 p 283) to the value of $r_{kk} = 0.90$.

In table 2 the qualitative answers to the open-ended question about the consequences of the nurses' actions have been quantified according to the same category system that has been applied when studying their deliberations preceding their actions. This question about consequences is a very important variable in work analysis (See Sjödaahl 1976a) for two main reasons. First long-term lack of feed-back in serious social interplay predisposes for burnt-out-states. Second learning and adjustment is hampered by lack of appropriate feed-back.

Below are two examples illustrating answers to the question about perceived consequences of the measures taken:

" - - - so the patient began to talk - he talked about his home conditions - and I noticed soon that he had a real need to talk to somebody - and we stood there 10 - perhaps 20 minutes and talked to each other - and he calmed down and forgot his desire to leave the hospital for home."

" - - - he (an anxious terminal cancer patient) said among other things something that we still talk about here in the ward - it was late in the evening - "I hope I am fast asleep when you come back in the morning - and if I am you should know that it's thanks to all of you". This was very nice to hear."

Table 2 The frequency of categories represented in the answers (N = 172) to the question: What consequences did your measures lead to? Frequencies based on the sum of two independent categorizers' checking.

Category	Frequency
1. The patient's psychological state	155
2. The patient's need for attention and his/her expression of satisfaction or dissatisfaction	63
3. The patient's preparedness to accept certain conditions or persons, like the illness, doctors, nurses, co-patients, medical examinations, being moved to another department etc.	49
4. The patient's behaviour with regard to discipline and rules in the hospital	23
5. The patient's somatic state	22
6. The patient's possibilities to get in contact with relatives and friends	18
7. If the patient is withdrawn, closed or alert, outgoing	17
8. The risk that the patient develops a too demanding and dominating attitude or behaviour	6
9. The patient's capacity (or difficulties) in apprehending and understanding the nurse's measures	5

Spearman's rank correlation between the two coders' frequency-series amounts to $\rho = 0.87$ - correction with Spearman-Brown's formula (number of coders = 2) gives $r_{tt} = 0.93$.

The answers to the question about reasons to act in the reported situation (table 1) show that most of the motives and deliberations given by the nurses are concerned with the patients' own thoughts and feelings - covert behaviour or dispositions like the patients' interests, worries, plans, attitudes and personality traits. Next follows somatic considerations as incitements for caring-measures. Psychological reasons are however mentioned almost 4 times as often as somatic ones. Very rarely are the patients' difficulties to adjust to the rules and routines of the ward mentioned as reasons for taking caring-measures.

The reported consequences of the nurses' measures in the recorded episodes are distributed within the given category system (table 2) in a way very similar to the frequency distribution of the reasons behind the measures taken in the same situations, i.e. the perceived consequences are usually of a psychological character. On the whole the nurses' possibilities to perceive and register the results of their own measures are regarded as rather satisfactory.

3. CONSTRUCTION OF ATTITUDE SCALES TO MEASURE PATIENT - CENTEREDNESS

Before illustrating how problem-based learning can be developed from critical incident research and knowledge about attitude structures a condensed presentation of my attitude research within the nursing education project (1969-1974) will be given on the following pages.

The number of ways to conceptually define an attitude is annoyingly large (see Sjödaahl, 1990, p 301-302). Even if the attitude concept varies somewhat between different authors there is agreement about the importance to take the following three aspects into consideration when trying to understand or influence attitudes.

1. *The cognitive aspect.*

An attitude always refers to some external or conceptual object. You develop attitudes towards something e.g. political programs, health-care, patients, modern art etc. Your beliefs and ideas with regard to subject-areas like these are important building blocks in forming an attitude.

2. *The motivational, emotional aspect.*

An attitude motivates behaviour, i.e. emotions or feelings are always to some extent involved in the development or expression of attitudes. The affective component is sometimes not very explicitly stated in the definitions but can be inferred from the emphasis laid on the attitude as a steering, predisposing, motivating factor.

3. *The behavioural or intentional aspect.*

An attitude always includes a latent behavioural component, i.e. a more or less dormant intention or readiness to act in a certain way in later situations pertaining to the attitude object. Thus an attitude has a certain permanence in time although it can vary in energy - or intensity level from being dormant to being on the point of triggering off observable incipient overt behaviour.

In attitude research as well as in attitude formation it is desirable to take all the above-mentioned aspects into account. This is a difficult task - especially intricate and extensive when the attitude studied deals with interpersonal relations. In these situations at least two parts are always involved - one part the possessor of the attitude - the other part the receiver of overt attitude expressions. This report deals mainly with the care-giver as the possessor of the attitudes and the patient as the receiver of attitude expressions. The following research-themes have been in focus in my own attitude research.

- *The cognitive aspect.* Which ideas can be associated with the concept patient-centeredness? Due to practical and economical reasons this question is confined in my research to the expressive, psychological aspect of nursing.
- *The motivational - emotional aspect.* How are the patients' needs and emotions influenced by the nurses' overt expressions of attitudes?
- *The behavioural or intentional aspect.* Which behaviour or measures are linked to those ideas or beliefs about good nursing which can be derived from the item-content of the attitude tests?
- The concept patient-centeredness defined according to the interview instruction as well as by the selection of attitude items probably includes several sub-attitudes. What does this pattern of sub-attitudes look like - how can they be interpreted, attributed and differentiated from each other in a meaningful way?

THE COGNITIVE ASPECT.

A preliminary definition of the attitude area - patient-centeredness - was established by going through those lists of human needs that can be found in psychological and nursing literature. A selection and adjustment was made with regard to accessibility and the practical economical resources of the project. The guiding principle when constructing the need-inventory was, however, to describe the needs in as broad and

general a way as possible and at the same time give some more concrete examples illustrating the abstract definitions (See app. 2). With patient-centeredness is thus meant an attitude that expressed in words, feelings or overt behaviour facilitates satisfaction of essential psychological needs in the patient. The concrete content of attitude items, that reflected this conception of good nursing was taken as excerpts from literature, where the expressive, psychological aspect of nursing was discussed (See app. 6). This literature review covers 27 works, where patients, nurses, doctors, psychologists and sociologists give their ideas and opinions about good patient-care. From this literature 175 excerpts were drawn and reformulated into attitude items along the following three lines:

1. The item content must not be so specific that it eliminates many nurses.
2. The items may very well describe opinions in priority-situations or in role-conflicts where your judgement is heavily based on your own values.
3. To be relevant for the attitude studied the items ought to express opinions, ideas or beliefs that in some way are related to the patient's psychological needs.

Below some examples of attitude items can be found.

For each item the respondents were given the following response alternatives.

- () fully agree
 - () partly agree
 - () neither agree, nor disagree
 - () partly disagree
 - () fully disagree.
- The more personnel who are responsible for the care of the patient the more difficult it is to establish a good patient-nurse relation.
 - Talking to the patient cannot be regarded as real work.

- To be able to cope with the work you must try not to engage yourself too deeply in the patients' personal problems.
- When new hospitals are planned consideration should be taken to the patients' needs.
- If the days could be made more varied and stimulating there would be less need for sleeping pills.

All the 175 items are presented in Sjö Dahl (1972). The wording and selection of attitude items was carried out in cooperation with a professional nurse, Margareta Helming.

THE MOTIVATIONAL - EMOTIONAL ASPECT

To obtain a quantitative description of the emotional component of our attitude concept two professional nurses have independently judged which psychological needs (in the patient) could be satisfied or frustrated by a measure in accordance with an acceptance of the item-content. This judgement was carried out for each item separately. The two judges were presented with a written coder-instruction (see app.7) and with a list of all 175 items. Under each item an example was given of overt behaviour that was in harmony with an acceptance of the item-statement. Every time a judge interpreted the overt behaviour as satisfying or frustrating a certain need this was marked in a frequency-form. These tallies which maybe give some information about the need-relevance of the item-content are added for the two judges and presented for each need in table 3. The agreement between the two judges' frequency-series is relatively high. Estimated as a rank-correlation the agreement amounts to $\rho = 0.81$ for satisfaction of the patients' needs and to $\rho = 0.77$ for frustrating the needs. Raised with Spearman-Brown's formula these correlations amounts to $r_{kk} = 0.90$ and 0.87 , respectively. As can be seen from table 3 the need for emotional security and the need of being accepted as a member of a group are frequently represented in the item-content, while need associated with mental growth like the need for new experiences, the need for achievement, the need for playing and recreation and the need for personal realization are more rarely checked.

Table 3.

Total number of relevance checks when using two independent content analysts

Need	Frequency of checks
1. The need for emotional security	390
2. The need for being accepted as a member of a group	328
3. The need for communication with other people	277
4. The need for independence	272
5. The need for appreciation	237
6. The need for personal integrity	230
7. The need for self-esteem	216
8. The need for new experiences	152
9. The need for achievement	123
10. The need for playing and recreation	109
11. The need for personal realization	80

Total 2.414

THE BEHAVIOURAL OR INTENTIONAL ASPECT

For many reasons it is difficult to predict with any greater precision which behaviour is going to follow from a person's attitude position. This research area, dealing with how attitudes and behaviour are related to each other does not lend itself easily to short summaries or a general conclusion. The interested reader is referred to Sjö Dahl (1990). To get some idea about the intentional component in our attitude concept every attitude item has been reformulated to an assumed behavioural act or measure in harmony with an acceptance of the item content. The following examples will make this procedure clear.

Item. There is a risk that you loose your authority if you step out of your professional role and offer the patient more personal contact.

Assumed behaviour.

The care-giver tries to keep a certain distance to the patient in order to retain her professional role.

Item. The more personnel who are responsible for the care of the patient the more difficult it is to establish a good patient-caregiver-relation.

Assumed behaviour.

The number of persons responsible for the care of a single patient is restricted to a minimum.

Item. Talking to the patient cannot be regarded as real work.

Assumed behaviour.

The caregiver avoids verbal communication with the patient.

Etc.

SCALING OF ATTITUDE ITEMS AND ADMINISTRATION OF ATTITUDE TESTS

All 175 items were scaled along an 11-interval dimension defined as can be seen from the illustration given below. This scaling was carried out by 64 professional nurses according to a written instruction (see app. 8).

96. Many patients complain without any real cause about the care they receive.

1	2	3	4	5	6	7	8	9	10	11
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Extreme lack of empathy					Extremely great empathy					

Two versions of an attitude test, each consisting of 50 items, were then constructed from the item pool of 175 scaled items. The two item samples were selected on the basis of their median scale values as well as with regard to the size of their quartile range in order to make the two versions as comparable as possible. (Sjödahl, 1972, pp 41-54). To explore the attitude structure the two attitude scales were given to 133 nursing students and the results factor-analyzed. By working with two "comparable" test versions we got two separate factor analyses and thus two factor interpretations. This gives us a possibility to check the factor interpretations against each other. Because the attitude tests were answered anonymously, background data for the respondents were recorded on a separate occasion from the students' application forms stored at the Headmaster's office. The following background information was available and recorded:

- Course
- Competence group
- Earlier training and education

These background data are described in detail and compared with corresponding data for a nation wide population in Sjödahl (1972, pp 59-63).

4. FACTOR ANALYSES OF ATTITUDE SCALES - MAPPING THE STRUCTURE OF PATIENT CENTREDNESS

Within each test the 50 items were correlated and the correlation matrices factor analyzed according to the standard program BMDO3M (Dixon, 1967). The multiple correlation coefficient between a variable and the other variables within the scale was taken as an estimate of the communality value for the variable.

Hotelling's (1933) iterative principal axis method was used to extract the factors. This method is a maximum variance method which means that the first factor represents the maximum amount of variance that could be presented by one single factor. Each following successive factor extracts new variance, which does not exceed the amount of variance extracted by the preceding factor. All factors with eigenvalues larger than 1 have been rotated (Kaiser's criterium, Mårdberg, 1969, p. 93). The number of factors rotated in version 1 (scale 1) are 10 and in version 2 (scale 2) 9. The factors have been rotated according to the varimax method which is an orthogonal rotation method using Thurstones' criteria for simple structure. These criteria are based on the assumption that it is plausible to choose the simplest solution when faced with several, possible solutions.

To get some guidance in deciding the significance of our factor loadings Burt-Bank's formula has been used (Child, 1970, pp 97-98). This formula takes into account the size of the person (individual, subject) sample, the number of variables and the number of rotated factors. The formula gives for $n = 150$ and for the 10th factor a loading of ± 0.23 as significant on 1 %-level. With regard to the number of rotated factors (10 and 9) and the size of our person sample (subject sample) ($n = 131$) factor loadings with an absolute value of at least 0.24 have been regarded to be of significant interest for our factor interpretation or theory-building.

All statistical data from the two factor-analyses such as means and standard deviations for each item, correlation matrices and factor matrices are presented in Sjödaahl

(1972). Interpretation of statistical data from a factor analysis is not a routine, mechanical process. On the contrary - the interpretation, which is usually carried out by the researcher is mainly of a hermeneutic character. The researcher looks for meaning, relations and contexts among his figures and thereby makes use of both facts and qualified guesses. This process can be described as oscillating or alternating between an extensional and an intentional language - i.e. the researcher both discovers and invents meaning and significance. Statistical inference must thus be complemented with the researcher's intuitive inference if the end results are going to be meaningful and of interest outside the narrow research context.

In both factor analyses the same 7 attitude complexes could be distinguished. The description of these 7 attitude factors gives us a definition of patient-centeredness on a far higher abstraction level than that represented by single statements derived from debate literature and used as items in our attitude tests. Below the 7 attitude factors are defined and illustrated with a number of items significantly loaded in the factor. The factor loadings, which can be seen as graded measures of the relevance the items possess for the attitude factor are given within brackets after each statement. In this report only numerical values are given, i.e. no consideration is taken to the fact that the scale construction sometimes gives negative - sometimes positive values. It is reasonable to expect that the 7 attitude factors may be mutually related to some extent. To explore that interaction is, however, a new, comprehensive research enterprise. Below the 7 attitude factors are described briefly and illustrated with a few item statements (from version 2) significantly loaded in the factor (factor loadings are given in brackets).

FACTOR 1

A formal, instrumental attitude towards the expressive (psychological) aspect of care. The main interests and expectations are not primarily related to the patient's psychological needs - instead they have to do with rational considerations like time-efficiency, economy and administrative routines.

ITEMS

- Many patients complain without any real cause about the care they receive. (.68)
- People who complain about the hospital clothes are probably rather superficial and vain. (.63)
- In order to get good care the patient must accept having his freedom considerably restricted. (.61)
- To activate the patients in order to entertain them could hardly be a task for the nursing personnel. (.35)

FACTOR 2

Resistance or lack of preparedness to share the emotional problems of others. It also includes an one-sided concern with practical matters. A suitable name for this factor would be anti-intracception. (See Rubenowitz, 1963, p 61)

ITEMS

- The stressed ward personnel ought to rely to greater extent than usual upon the patients' capacity to support each other emotionally. (.63)
- One ought to expect patients to be so cooperative that they freely describe their symptoms even in the presence of other patients. (.43)
- Patients who frequently call for attention and help must be told that other patients are also in need of attention and help. (.27)
- Only a few, oversensitive patients find it unpleasant when doctors and nurses talk about them - over their heads - during the round. (.24)

FACTOR 3

The positive pole of the factor is defined by variables expressing an extrovert, dutiful attitude while the negative pole can be said to represent the opposite - an introvert attitude - a tendency to withdraw from social contacts and personal responsibility.

ITEMS

- The nurse ought to devote all her time to the expressive, psychological aspect of nursing instead of giving injections, administering tests etc. (.58)
- Doctors ought to delegate to nurses instrumental work like giving injections, setting drops etc. to a far greater extent than what is usual. (.43)
- The ward kitchen should only be used by the ward personnel in order to keep the discipline in the ward. (.42)
- If the patient made his bed himself the nurse ought to carefully control the result and if necessary remake the bed herself. (.27)

FACTOR 4

Active interest in the patient as a person - sensitivity and consideration in personal contacts.

ITEMS

- As each individual has his own sleeping-habits one ought to encourage the patient to stick to these habits even during his illness. (.46)
- At the round the patient should primarily be informed about laboratory results and test results. (.40)
- Lack of time is only a subterfuge for those nurses who are not interested in the psychological side of nursing. (.39)
- In order to stand the work nurses and other personnel must be allowed to talk about one thing and another even in the presence of the patients. (.36)

FACTOR 5

Items loaded in this factor seems to reflect an attitude dimension that can be labelled a problem-smoothening or problem-belittling attitude.

ITEMS

- It really is not necessary to inform patients about expected effects of prescribed medicines. (.67)
- The more experienced the nurse is the less the need for her to listen to the patient's own thoughts and questions. (.62)
- Patients capable of managing ordinary daily living do not need much attention. (.31)
- Even though everything does not function perfectly in the hospital the patient ought to be grateful for the treatment and care he is given. (.31)

FACTOR 6

A suitable name for this factor may be empathy in the sense of capacity to share the patient's self-image and role perceptions.

ITEMS

- The patients should be given the opportunity to talk about their family-worries as well as about their illness when they are in hospital. (.66)
- When new hospitals are planned consideration should be taken to the patients' wishes and needs. (.53)
- The patient's initiative ought to be stimulated even if the result turns out to be some neglect of rules for order and discipline. (.44)
- If the days could be made more varied and stimulating there would be less need for sleeping pills. (.35)

FACTOR 7

One pole of the factor describes a preference for oversimplified generalizations and strong reliance on rules in social relations - giving little room for individual consideration and nuances. Many of the variables loaded in the factor express a tendency to fall back on simple rules and stereotyped patterns in nurse-patient relations. The opposite pole represents social flexibility based on insight about the large range of variation with regard to background, habits and personalities represented by the patients.

ITEMS

- Bedridden patients' wishes to be given the possibility to wash themselves and brush their teeth before going to sleep cannot be met because of practical reasons. (.64)
- Certain individual considerations ought to be taken when applying the rules for waking up in the morning and going to bed in the evening. (.49)
- It is necessary to keep strictly to rules for silence and putting out the light in the evening in the ward. (.47)
- The reason that many patients complain about the care given is probably firmly set in their personality. (.29)

5. WHY STUDY ATTITUDES?

The main reason for being interested in attitude research is my conviction that human behaviour can never be understood in a meaningful way only by studies of in- and output variables according to the black-box model. (Sjödahl, 1975). To attribute human social behaviour is hardly possible without paying attention to mediating factors like attitudes, expectancies, belief-systems, values, norms, intentions and purposes. A combination of behaviouristic and phenomenological approaches is probably necessary if the research result is going to have any social relevance, i.e. have some impact on human social life. In order to understand how attitudes are able to influence human relations it is not enough to unfold the cognitive, emotional and intentional components of the attitude. This molar description has to be complemented with a conceptual framework suitable for describing the actual process of social interaction on a micro-level.

A tentative mediation theory of this kind has been presented by Rosenthal (1973) when studying self-fulfilling expectations in every day life situations - in classrooms, offices and factories. Rosenthal suggests a four-factor theory including the following four factors: socio-emotional climate, feedback, input and output. This theory is almost rudimentary and extremely difficult to apply because the four factors are not easy to keep apart as separate variables. Output for one person in a social interaction may be input for the other part. Feedback for one person could equally well be classified as input or output seen from the point of view of someone else engaged in the social interaction. I cannot see how Rosenthal's four-factor theory can be applied outside one-way-communication situations.

A productive mediation theory suitable for process research on micro-level when studying the effect of attitudes on behaviour in social interaction is, however, still to be invented. There is of course extensive theoretical as well as empirical research relevant to this task within small group studies, behaviour modification and mass-media studies. Also psychoanalytical concepts like identification, projection, reciprocal projective identification may be of interest in this context.

A possible link between the molar, dispositional attitude concept and the sought for process variables is offered by the concept expectancy. Expectancies may be more situation restricted than attitudes. They grow out of already established attitudes in interaction with situational conditions. There is fairly convincing evidence in experimental literature that expectancies tend to influence the way a person attends, perceives and acts in social interplay (Rosenthal, 1973).

The impact of expectations on behaviour in social relations can be studied by building up belief-systems (the cognitive attitude component) and treating them as independent variables in controlled, experimental research. Belief-systems and attitudes are in a continuous, dynamic relationship. A change in the person's belief-system can interact with the emotional as well as with the intentional component of the attitude and influence the whole attitude-system (Fishbein, 1967, p 322).

An impressive study demonstrating the power of this research approach as well as how important nurses' attitudes can be for patient progress in a nurse-patient-relation, was published at Harvard University in 1988. The author, Lee Andrew Learman gives the purpose of this study with the following words: "The primary purpose of this thesis was to test experimentally, for the first time, whether the progress of nursing home residents could be affected by the expectations of their caregivers." (Learman, 1988, p 9.) The research project was presented to the residents and families in the community as the "Harvard Patient Progress Study." (Learman, 1988, p 17.)

6. THE HARVARD PATIENT PROGRESS STUDY

At Harvard University experimental methods were used to test the effects of caregivers' expectations or attitudes on the progress of nursing home residents (Learman, 1988). As mentioned above this study is the first experimental research presenting evidence that caregivers' expectations do affect the progress of nursing home residents. The possibility of this kind of influence was suggested in Sjö Dahl (1972, p 14):

"We have assumed that among caregivers there exist attitudes and expectations that can facilitate the contact with patients and that these attitudes can counteract the tendency to dehumanize the caregivers' work when economical and rational considerations become tougher in the society".

The subjects in Learman's study were 63 elderly residents at 6 nursing homes, who within two weeks of admission were given a comprehensive assessment of their emotional, cognitive and functional status. Residents were then randomly assigned to a high or average expectancy condition.

ADMINISTRATING THE EXPERIMENTAL VARIABLE.

The experimental variable, i.e. building up different expectations or attitudes among the caregivers, was administrated at introductory meetings in each of the six studied homes. At all meetings the researcher (Learman) followed a memorized script saying to the nurses and aides:

"The purpose of our research is to study how nursing home residents do during their first six months in nursing homes. We're very curious about people who do particularly well during this period. The way we do our research is to take newly admitted residents who are expected to be here for a while and perform a comprehensive assessment. We test their memory, daily living skills, mood, and a whole bunch of other things and then we make predictions about how they will do during their first six months here.

After we get the results back from our assessment, the residents fall into one of two groups based on how we expect them to do. One group of residents we expect to do better than average compared with residents who have the same sorts of problems. This group is called the Special Study Group. For example, it is even possible for a

confused patient to be in the Special Study Group. All this means that the resident is expected to do better than other confused patients. The other group of residents we expect will do about average compared with other residents with similar problems. This group is called the Ordinary Group.

After we find out which group a resident is in I will come and let you know and then every week I will return to ask you how the resident has been doing. One week I'll ask the day and evening nurses and the next week I'll ask the day and evening aides. These weekly surveys take about 5 minutes and will continue for 10 weeks (if staff payment was agreed upon: "and you'll be paid \$ 3 for each survey you help fill out"). Then we will return and assess the residents again at 3 months and 6 months after admission. We will obtain their written informed consent and the data we collect will be kept anonymous to protect their rights of privacy and confidentiality. Our intention is to learn as much as we can about the research questions we are asking, while minimizing the inconvenience to you. Are there any questions? " (Learman, 1988, p 20).

RECORDING THE MEDIATIONAL VARIABLES

The expecter-expectee-interaction was studied by examining videotaped conversations between caregivers and residents. Fifty-five subjects were videotaped with their aides and 54 were videotaped with their nurses. The nonverbal content of the interactions was studied in three channels: video without audio, content-filtered voice tone without video, and both channels in combination. The highest audible frequencies of speech are removed by content filtering while rhythm and sequence of speech - the determinators of affect - are preserved.

A panel of 6 judges rated the nurses' and aides' nonverbal behaviour in two 3-hour rating sessions, using the following ten unipolar adjective scales: warm, friendly, professional, condescending, respectful, infantilizing, dominant, active, interested, caring and understanding.

The interjudge reliability for the rated attributes of nonverbal behaviour was estimated to $r = 0.762$ (median intraclass correlation).

Two classes of outcome variables were recorded 3 months after the resident's admission to the nursing home: 1) health status and psychosocial outcomes, and 2) assessment of the resident's emotional, cognitive and functional status.

Health status was estimated from symptoms and signs recorded in the resident's nursing home records. The psycho-social measures were extracted from the frequency of visits by family and friends, leaves of absence from the nursing home for non-medical reasons, and charted behavioural problems.

A comprehensive assessment instrument for use in nursing homes (the PACS Nursing Home Assessment Instrument (NHAI)) developed at Harvard Medical School was used to estimate the residents' emotional, cognitive and functional status. The measures can be grouped according to the three main domains they purport to record:

1. Measures of emotional status (self-reported)
 - Anxiety and Depression scales (Hopkins Symptom Checklist)
 - Somatization Items (Rand pain and discomfort items)
 - Sleep difficulty Items
 - Life Satisfaction Scale (Neugate Survey)
 - Perceived Health & Health change items.
2. Measures of Cognitive Status (observed)
 - Mental Status test (Folstein Test)
 - Attention Span Test
 - Short term memory test.
3. Measures of functional Independence
 - Self-reported self maintenance ability (Lawton Scale)
 - Performance test of self maintenance ability (Rand items)

Pearson product-moment correlations were calculated as reliability estimates using 4 subjects and 2 judges. The median r was 0.809.

To meet the basic ethical considerations the assessors obtained written informed consent from the residents. If the resident was deemed incapable of giving consent,

the social worker or the researcher obtained consent from a close family member. (Learman, 1988, p 21).

SUMMARY OF RESULTS

Besides a detailed presentation and discussion of statistical data Learman gives the following short summary of the main results:

" . . . Three months after admission, aides used more infantilizing body language when interacting with treatment group residents and spoke to treatment group residents in a somewhat warmer and more involved manner. In comparison with control residents' 3 months' progress, high expectancy residents reported fewer depressive symptoms, tested as less independent in their ability to perform daily living skills, and had somewhat shorter attention span. When the treatment effect was adjusted for the variance it shared with other predictors, membership in the high expectancy group predicted a 3-month decline in symptoms of emotional distress, better retention of short term memory ability, and a greater number of monthly visits. High expectancy residents who were referred to an emergency ward for an acute medical condition were not hospitalized as often as, and therefore might not have been as sick as, referred control group residents." (Learman, 1988, p 44.)

7. SUGGESTIONS FOR APPLYING CRITICAL-INCIDENT MATERIAL AND RESULTS FROM ATTITUDE RESEARCH IN REAL TEACHER (TUTOR)-LEARNER SITUATIONS

The best way to illustrate how to use critical-incidents in combination with knowledge about attitude patterns for developing problem based learning may be to proceed directly from a few reported incidents intended to be used in group work where attitude formation is an essential educational goal. Three examples are given below.

EXAMPLE 1

Reported incident

(Shows how several attitude factors can interact with another)

A patient was admitted to this hospital for an examination. A week earlier he had started getting yellow - his skin was turning very yellow. We took some tests and his skin got more and more yellow. Then one day the doctors decided to operate the patient in order to find out what was wrong, but they couldn't find anything pathological. The patient was informed about the negative findings of the operation and then left to lie in bed for days waiting for something to happen. The doctors discussed the case constantly between themselves and they decided to refer the patient to a specialist at another larger hospital.

He lay here for at least some weeks and he didn't know anything about what was going to happen to him and I could never answer his questions because I didn't know anything. Suddenly one day the reception here at the hospital called and told me that the patient was to be transferred to the larger hospital the next day. I was really surprised and told the receptionist that I first had to discuss this move with the patient - nobody had informed him - would he agree to be moved within such a short time?

The first thing for me to do was therefore to talk to the patient about his situation. He hadn't the slightest idea about what was going on and nobody had informed him that the doctors had been in contact with a specialist at another hospital. This was a very kind and reasonable patient. After going through a lot of practical, important details, like the possibilities for relatives to visit him at the larger hospital (transport facilities), time to inform the family about the new situation etc., he agreed to the arrangement - "it is surely best for me".

Comments

This incident illustrates the positive pole of attitude factor No. 3 (an extroverted, dutiful attitude) as the nurse assumes active personal responsibility for the direct communication with the patient. She doesn't fall for the temptation to escape from responsibility by delegating a difficult task to subordinate personnel. At the same time this incident also demonstrates attitude factor No. 5 (an evasive attitude) on the part of the doctors. They don't seem to realize that the patient's uncertainty during long empty days of waiting creates anxiety. This belittling attitude to the problem which is also expressed as insensitivity to the patient's covert behaviour (i.e. emotions, feelings) (attitude factor No. 2) is probably due to too many rational considerations like time-efficiency, economy and administrative routines (attitude factor No. 1). The situation shows clearly how the draw-backs for the patient of several attitude-factors can be counterbalanced and corrected by nursing behaviour congruent with the positive pole of attitude factor No.3.

If we start from the attitude factors isolated in the factor analysis and try to find those attitude complexes which can help us to understand the course of events described in the incident it becomes natural to steer the group discussion by means of certain questions or exercises related to those attitudes illustrated in the reported incident. Tentatively the following plan may function as a guideline for discussing the incident:

- Attitude factor 1.

A formal, instrumental attitude towards the psychological aspect of care. The main interests and expectations are not primarily related to the patient's psychological needs - instead they have to do with rational considerations like time-efficiency, economy and administrative routines.

To discuss:

Discuss how administrative routines in connection with diagnostic investigations and transfer of the patient to another hospital should be planned so that time can be reserved for keeping the patient informed.

- Attitude factor 2.

Resistance or lack of preparedness to share other's emotional problems combined with one-sided concern with practical matters.

To discuss:

Discuss how different members of the work-team can, during their daily wear and tear avoid developing insensitivity or resistance to the patient's internal world and instead grow in the capacity to perceive and take into consideration the patient's background, thoughts and beliefs, expectations, needs and feelings.

- Attitude factor 3.

The positive pole of the factor is defined as an extrovert, dutiful attitude while the negative pole can be said to represent the opposite - an introvert attitude combined with a tendency to withdraw from social contacts and personal responsibility.

To discuss:

In all human interplay unforeseen consequences arise - consequences which unfortunately sometimes can be negative for somebody like the patient in the

reported incident above. Give examples from your own work-experience as a nurse illustrating this kind of unforeseen negative consequences for the patient - and discuss the following questions:

- Would it have been possible to forestall the negative consequences?
- What demands are put on the nurse in order to set right the negative consequences for the patient?
- Attitude factor 5.

This attitude-dimension can be labelled a problem-evading or problem-belittling attitude.

To discuss:

Discuss if the tendency to gloss over or to belittle problems can have something to do with an exaggerated division of labour or professional specialization. Could this attitude be directed towards work-problems not belonging to your own work or profession? Could it sometimes be the opposite - i.e. the belittling attitude develops around certain problems that are special for your own work or profession because of professional concord or lack of a more holistic perspective?

EXAMPLE 2

An alternative way of applying critical incident material for training or educational purposes is given by the vast amount of qualitative material recorded in the critical incident study, where the interviewed nurses ($N = 172$) as answers to open-ended questions relate how they felt, thought and acted in the incidents they reported. These deliberations and reflections can be included in case-material as is shown by the example below:

Reported incident

The patient is very silent and appears to be depressed. One evening the patient spontaneously started to talk about her problems. Her husband had unexpectedly died two

weeks ago and her children prevented her from going to the funeral because they considered she was too ill. Instead they brought her to the hospital. How would you handle this situation? Discuss within the group the pros and cons associated with the following measures.

- Inform the responsible doctor about the deficiencies in the patient's social history and suggest improvements.
- Just listen to the patient and then forget about it.
- Inform the doctor and hope he makes necessary contacts.
- Devote much extra time and attention to this patient.
- Ask the doctor for advice and then contact the patient's relatives.
- Bring the case up to discussion with the staff in order to reach a group decision about how to care for this patient.
- Tell the patient to discuss the problem with the children during the next visiting hours.

EXAMPLE 3

As I have already pointed out (p 9) we have equally often asked for "positive" incidents as "negative" incidents. In this last, third example a positive incident is presented demonstrating a high level of professional skill and judgement where the positive poles of all the seven attitude-complexes isolated in our attitude-research are represented - attitudes that cannot be learned *in abstracto*.

Reported incident

The patient I want to tell you about had heavily impaired hearing and impaired sight - she was really handicapped. Her husband was admitted to the surgical clinic for an operation - here at this hospital. After the operation he had a severe haemorrhage and was moved to the intensive care department in a very bad condition. We try to tell this sad news for the patient and very cautiously to prepare her for the fact that her husband was severely ill - actually I did it twice this afternoon. The doctor has informed us that her husband will probably not survive. We try repeatedly to give her information from the intensive care department - but do not put too much emphasis on the doctor's bad prognosis for her husband. When we finally have to tell her that her husband has died the doctor who was responsible for the intensive care of her husband talked to her in privacy. Because we have repeatedly informed her about her husband's poor condition she seems prepared for the worst and reacts calmly and sensibly to the doctor's information. We now attend to her as often as possible - try to support her emotionally - and she is also given a few tranquillizer.

To discuss:

Discuss if training in scientific thinking and research planning is sufficient to establish the high level of professional judgement and skill to work together which is illustrated in the incident above. If not - suggest necessary conditions and measures for developing this high level of sensitivity and professional communication skill which is demonstrated in the nurse-patient relation described in the incident.

FINAL COMMENTS

Educational knowledge can be more or less tightly framed in relation to curricula, teaching material and the teaching process. The process of teaching and learning as well as the results can thus be more or less controlled and visible. This rather ideological aspect should of course be recognized when applying research results in actual educational situations. There are therefore many ways of integrating research material from critical-incident studies and attitude research into teacher (tutor)-learner situations - all based on certain differences in the ideological standpoint. The

examples given above of how to use critical incidents in combination with results from attitude research are thus to be considered as just some possibilities among other options. Alternative presentations and uses of case material can be found in Lemark (1990) and Egidius (1991). If the concrete suggestions given in the examples above are regarded as too directorial - not giving sufficient room for self-directed learning - reported incidents could be supplemented with background information - and questions or problems to be discussed could be cancelled or reformulated. To be open for alternative approaches - to search for knowledge - to state questions and problems and reach for their solutions - to be sensitive for contexts and nuances in order to take a stand in complex issues from an informed, responsible and matured level are essential educational goals - perhaps mainly within vocational training and education - goals that could be at risk if the stimulus-aspect is one-sided and too dominated by one single teacher or restricted to one or just a few compulsory information sources (e.g. books, stencils, research reports etc.)

Critical incidents of the kind we have been familiar with in this report could of course be used for other purposes than attitude formation. They may also serve as starting-points for demonstrating or discovering relations between different subject areas as well as between research results and applications in real work-situations. With the examples presented above I hope to have given some hints about how research results can be fed back into the care-system - via the educational system - in order to improve care where obvious shortcomings exist. It may be equally important to observe, report and attend to what really works very well and is admirable if we want to preserve and stand up for it.

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*Appendix 1***NURSING IS THE CARE OF PEOPLE**

Nursing implies the care of people. You cannot take care of people properly without holding the human aspect in mind. A nurse must therefore behave and act in such a way that she pays the greatest possible attention to the patient's psychological needs. These needs can be described more or less specifically and they can be formulated in slightly different ways. The most important psychological needs can be briefly described as follows:

a. *The need for emotional security*

- to have a positive relationship with people you are dependent on or you are emotionally attached to
- to be able to predict or to know what is going to happen in the near future
- to be cared for, supported, protected, guided, consoled

b. *The need for being accepted as a member of a group*

- to work together or to be in contact with others
- to be able to maintain contact with those you are emotionally attached to
- to remain loyal to friends, to experience affinity with each other

c. *The need for independence*

- to feel free from restrictions
- to shake off constraint
- to avoid or abandon activities laid down by superiors or dominating authorities
- to put convention aside

d. *The need for variation*

- to break monotony
- to seek for and appreciate change
- to learn something
- to discover something new
- to satisfy your curiosity

e. *The need for achievement*

- to increase your personal pride by achieving something
- to conquer obstacles
- to exceed your present achievement level
- to master or manage tasks satisfactorily
- to work with something that leads to experiencing a result

f. *The need for appreciation*

- not to be forced to act against your own principles
- to uphold your self-respect and pride
- to feel that your own actions correspond to your ethics, e.g. to be able to practice your own religion

h. *The need for communication with other people*

- to communicate with others and express your feelings, desires, fears etc.

i. *The need for personal integrity*

- to avoid situations that can lead to scorn, mockery or indifference on the part of others
- to be free to decide on the kind of information about yourself and your relatives you are prepared to impart to others

j. *The need for (playing and) recreation*

- to have fun, laugh, joke
- to seek relief from stress
- to take part in competitions, sports, games of various kinds etc.

k. *The need for self-realization*

- to be given opportunities for self-realization, i.e. developing your own talents and skills

*Appendix 2.***EXCERPTION FROM INTERVIEW INSTRUCTION*****Positive incident***

Please tell me about an episode or event (it does not need to be particularly dramatic) which shows clearly how the nurse in her daily work really can consider the human aspect in caring (nursing) - an episode that you yourself have been involved in - that is to say something that you not only have heard about. Describe the episode in as much detail as possible.

Negative incident

Please tell me about an episode or event (it does not need to be particularly dramatic) which shows clearly how the patient's psychological needs have been disregarded or on the point of being neglected - an episode that you yourself have been involved in - that is to say something that you not only have heard about. Describe the episode in as much detail as possible.

*Appendix 3.***INSTRUCTION FOR CODING ANSWERS TO THE FOLLOWING TWO QUESTIONS:**

- What measures did you take in the situation you have just reported - when you became aware of the problem?
- Did you intervene in some way to solve this situation later on?

Read through approx. 25 answers to the two questions above to get an idea of how the informants answer the questions. Select these 25 cases so all 5 interviews are represented in your sample. Read also - always the reported incident so you have the contextual background necessary for coding the informants' responses. Regardless of how often a certain category in the category-system below is mentioned in the single interview make just one check in the frequency-protocol. We are namely only interested if a certain response-category is represented or not in the interview.

Appendix 4.

**EXCERPTION FROM CODER-INSTRUCTION FOR CATEGORIZING ANSWERS
TO THE OPEN-ENDED QUESTION: WHY DID YOU CHOOSE TO ACT AS YOU
DID IN THIS SITUATION?**

Before answering the questions below read carefully through the informant's answer to question 8.1.2 (the question above). Tick thereafter the applicable response suggestions in the category-system given below!

1. Does the reasoning concern alternative strategies i.e. more than one alternative is given?
☐ yes
☐ no
 Please exemplify

2. Does the reasoning concern the patient's home-background?
☐ yes
☐ no
 Please exemplify

3. Does the reasoning concern some single person or some personnel category?
☐ yes
☐ no

4. - - -
5. - - -
6. - - -
7. - - -
8. - - -

9. Does the reasoning concern the patient?

☐ yes

☐ no

If yes check the following response-categories!

9.a ☐ the reasoning concerns the patient's psychological, mental state (covert behaviour)

9.b ☐ the reasoning concerns the patient's somatic state

9.c ☐ the reasoning concerns the patient's need of attention

9.d - - - -

9.i ☐
the reasoning concerns the patient's preparedness to accept certain conditions or persons - - -

Appendix 5.

**LITERATURE FROM WHICH EXCERPTS HAVE BEEN TAKEN AND
REFORMULATED INTO ATTITUDE ITEMS.**

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*Appendix 6.***INSTRUCTION FOR SEMANTIC SCALING**

Below you will find a large number of attitude statements, numbered from 1 to 175. Under each statement a concrete measure (overt behaviour) is described, which is logically congruent with an accepting response to the attitude statement. The person who agrees with statement number 1 (Patients who simulate illness should not occupy a hospital bed) can logically be expected to send malingering patients away from the hospital.

In appendix 2, a concentrated description of eleven basic human needs is given. These needs have been designated with letters from a-k. You are asked to make the following judgements for each of the 175 statements by using the enclosed response form.

1. Try to judge which of the 11 needs are likely to be satisfied by the overt behaviour described under the statement. Give your judgement by writing the appropriate letter designation (a-k) in column 1 of the response form.
2. Try to judge which of the 11 needs are likely to be frustrated by the concrete measure described under the statement. Give your judgement by writing the appropriate letter designation (a-k) in column 2 of the response form.

Instruction example**Attitude statement:**

Material standard like quality of food, clothes and a rich supply of toys is more important for the child's development than opportunities to play and talk with mum and dad.

Behaviour measure (overt behaviour): More time and attention is devoted to the material status in the home at the expense of time for personal contact with the child.

Measure	Column 1. Needs likely to be satisfied	Column 2. Needs likely to be frustrated
1	a, b, d, f, i	a, b, d, f, h, j, k
2	-----	-----

To have plenty of toys and to be given material security is likely to facilitate the satisfaction of both the need for emotional security and the need for belongingness with others. A gift can be perceived as an expression of a wish to get in contact with the receiver. Both need a and b have therefore been marked in column 1. If time for conversation and personal contact with the child is reduced to give room for a surplus of material goods the two needs a and b can also be frustrated, neglected. Therefore a and b have also been marked in column 2. A similar reflection or thinking is behind remaining column checks for the example given in this instruction. Please observe that for certain statements it may be appropriate to check one and the same need in both columns.

With thanks in advance for your contribution

Lars Sjö Dahl

*Appendix 7.***INSTRUCTION FOR JUDGING (SCALING) ATTITUDE STATEMENTS.**

The pile of yellow cards in front of you contains 175 cards (needle-cards). On each card you find a statement that expresses concern for the patients psychological needs to a lesser or greater extent.

These statements are meant to form an attitude scale to be used for estimating attitudes to the patient's psychological needs. As a first step in the scale construction you are asked to judge each statement with regard to the extent of patient-centeredness (=concern for the patient's needs) the statement expresses. When making your judgement you can relate the statements to conditions prevailing in medical and surgery departments of an average sized hospital (500-1 000 beds). On each card there is an 11-graded scale. The 11 steps along the scale are represented by 11 squares and you give your answer by putting a cross in the appropriate square. If you feel that a statement expresses an extreme lack of empathy for the patient's needs you check, mark your judgement by putting a cross in the square to the far left, designated by the number 1. On the other hand, if you feel that a statement represents an extremely positive, understanding attitude towards the patient's psychological needs you put a cross in the square to the far right, designated with the number 11. Certain statements you may perceive as neutral i.e. they neither represent a clearly positive nor a clearly negative attitude to the patient's psychological needs. In cases like this you give your answer by marking a cross in the middle square of the scale - the square numbered 6.

There may also be statements not possible to classify as either extremely positive, extremely negative or neutral - they are simply positive or negative to a greater or lesser extent. For these statements the remaining steps along the scale are used for check marks. The more positive you find a statement the further to the right you put your cross and the more negative (not-understanding) you judge the statement the further to the left you place your cross.

There is no reason to try to distribute your judgement in certain proportions along the 11 squares of the scale. The important thing is that you try to check just that square that corresponds to your personal idea of what degree of patient centeredness the statement represents. There are no earlier judgements of these statements. It is on the basis of your judgements that we try to find out how the statements should be allocated along the scale.

Observe that you do not need to write your name on the enclosed background form. As it can be of value to know something about the age and professional background of our group of 64 judges you are asked to answer some questions on the enclosed background form. After filling in the background form you start your judging by reading the statement on the top of the pile, thereafter the next statement and so on. The statement cards have been put in a special order and it is important that you deal with the cards in the order you have been given them.

With thanks in advance

Lars Sjö Dahl

Abstract card

Sjödahl, L. Nursing research at Malmö School of Education, University of Lund - results and suggestions for application. Educational and Psychological Interactions (Malmö, Sweden: School of Education), No. 111, 1992.

The report presents methods and main results from an empirical research programme within nursing research carried out during the late 60's and the early 70's at Malmö School of Education, University of Lund. Some, recent, American nursing research dealing with the same problems that were in focus in the author's own research 20 years ago are briefly described. A description of the research process covers the author's work from early planning to suggestions about how to apply the research results. These suggestions give hints about how to influence attitudes, train problem solving and develop a holistic approach to patient care. The report concentrates on the following three themes. 1. Job analyses by means of the critical-incident method. 2. Construction of attitude instruments and exploring attitude patterns. 3. Suggestions for application in nursing education of the research results.

75 Keywords: Attitude research, critical incident method, nursing research, problem solving.

Reference card

Sjödahl, L. Nursing research at Malmö School of Education, University of Lund - results and suggestions for application. Educational and Psychological Interactions (Malmö, Sweden: School of Education), No. 111, 1992.